

Letter For Electronic Distribution

Original signed letter on file at the following address:

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April 12, 2000

Mr. John Dirickson, P.E.
Environmental Engineer
Naval Air Station, Fallon
Public Works Department
Environmental Division-Code 187JD
4755 Pasture Rd.
Fallon, NV 89496

RE: NDEP Response to Site 17, Hangar 5
Draft Final Decision Document, August 27, 1999, Sites 4, 7, 9, 10, 11, 12, 17, 18, 19, 23, and 24
Remedial Investigation/Feasibility Study
Naval Air Station Fallon

Dear Mr. Dirickson:

Nevada Division of Environmental Protection (NDEP) staff has reviewed NAS Fallon's Report entitled *Decision Document, Sites 4, 7, 9, 10, 11, 12, 17, 18, 19, 23, and 24, Draft Final*, dated August 27, 1999. This report was prepared in response to a series of NDEP letters which commented on NAS Fallon's report entitled *Record of Decision, Sites 4, 5, 7, 8, 9, 10, 11, 15, 17, 18, 19, 23, 24, 25, 26, 27 Naval Air Station Fallon* (ROD), dated June 5, 1998. Due to significant changes between the Draft Final Decision Document and the Record of Decision, the referenced Draft Final Decision Document was reviewed as a draft document instead of a draft final. NDEP's comments on Site 17, Hangar 5, are addressed in this letter.

The level of detail and explanation presented in the Draft Final Decision Document does not appear to adequately explain the nature and extent of soil and groundwater contamination associated with Site 17. Based on NDEP's review of site conditions and supporting documentation to verify information provided in the Draft Final Decision Document, the NDEP remains concerned that significant data gaps remain. The concentration of total petroleum hydrocarbons (TPH) in a soil sample collected during the Preliminary Assessment/Site Inspection (PA/SI) exceeded the State action level of 100 mg/kg. However, contaminated soil was not remediated and no on-site data were collected during the Remedial Investigation/Feasibility Study (RI/FS) to evaluate the extent of contamination. The NDEP requested that additional investigation activities be completed to determine if Site 17 may be the source of solvents detected in groundwater at Site 16. However, the additional investigation was not implemented. Due to a lack of data, the nature and extent of contamination, and contaminant migration, associated with Site 17 cannot be adequately evaluated.

This document needs to be available to the public for review, as appropriate, and an accurate record in the

Decision Document is required so that an informed decision can be made. The Decision Document needs to clearly describe the potential contaminant sources at Site 17 (TPH impacted soil on the south and east sides of the site as presented on Figure 8-15 in the PA/SI Report, and possibly solvents in groundwater) and justify why these sources areas were not investigated during the RI/FS. It is also important that on-site and off-site data associated with Site 17, collected during the PA/SI and the RI/FS, be clearly identified on the drawings. The drawings presented in the Draft Final Decision Document do not identify the locations of soil samples collected during the PA/SI, and do not clearly identify the potential source areas. It is also difficult to identify the off-site borings associated with Site 17. These issues need to be clarified in the Decision Document and are discussed further in the comments attached to this letter.

Formal approval of a "No Further Action" Decision Document is based on the extent of the investigation and remediation, an understanding of the nature and extent of contamination, documentation in the administrative record, and post closure care which includes institutional controls, land use restrictions, and/or post-closure monitoring. The NDEP is concerned that contamination associated with Site 17 may be more extensive than presented in the Draft Final Decision Document, and that contaminated soil identified during the PA/SI has not been remediated. Also, the NDEP is concerned that documentation to support the "No Further Action" recommendation in the Draft Final Decision Document does not appear to be included in the administrative record. In a letter dated January 28, 1999, the NDEP requested that supporting documentation (including borings logs, laboratory analytical reports, and the RI/FS Sampling and Analysis Plan) be provided to the NDEP. These documents have not yet been provided. In consideration of these factors, the NDEP cannot concur with "No Further Action" at this time.

The NDEP will consider "No Further Action" for Site 17 after NAS Fallon either performs additional site characterization work, or prepares an acceptable post-closure groundwater monitoring plan for the NDEP's review and approval. Post closure monitoring requirements and associated long-term costs will depend on the extent to which Site 17 is characterized. NDEP's comments on the Draft Final Decision Document for Site 17 are attached to this letter. A response needs to be provided for these comments prior to NDEP approval of "No Further Action". NAS Fallon has not responded to many of NDEP's comments presented in the letter dated January 28, 1999. Comments in that letter which were not addressed in the Draft Final Decision Document are reiterated in the comments attached to this letter.

Since many of the issues regarding Site 17 have been on-going and unresolved for an extended period of time, please provide a time frame for addressing the comments in this letter within 30 days. If we as project managers cannot agree on a process to resolve these issues, the NDEP will need to initiate the dispute resolution process. If you have any questions, or need further clarification, please do not hesitate to contact me at (775) 687-4670, extension 3053.

Sincerely,

Jeffrey J. Johnson, P.E.
Geological Engineer
Bureau of Federal Facilities

JJJ/js

cc:

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**COMMENTS ON THE DRAFT FINAL DECISION DOCUMENT
SITE 17, HANGAR 5**

1. Page 1, third paragraph: The Draft Final Decision Document states: “*The decision not to undertake a remedial action for this site is consistent with the factors set forth in the National Contingency Plan (NCP) 40 CFR part 300, and Nevada Administrative Code (NAC) Sections 445A.226 through 445A.22755. This decision was based on one or more of the following*” (three bulleted reasons follow).

The NDEP does not concur with the above statement for the following reasons:

- C Surface soil contamination was identified during the PA/SI, but was not considered during the baseline risk assessment. An assessment of potential exposure to nearby human populations, animals or the food chain was based on off-site wells, not the on-site soil samples which were contaminated. Also, potential groundwater contamination was not investigated. See comment **9**. Therefore, the statements after the first and third bullets have not been verified.
- C Soil contamination was identified at Site 17, and the presence of groundwater contamination was not investigated. Therefore, the statement after the second bullet does not appear to be accurate. See comments **7, 8** and **9**.
- C Supporting documentation appears to be missing from the administrative record. See comments **11** and **14**. Therefore, NAS Fallon does not appear to be in full compliance with 40 CFR Part 300, Subpart I: Administrative Record for Selection of Response Action.
- C Contaminated soil with TPH concentrations exceeding the State action level of 100 mg/kg has not been adequately investigated or remediated. See comment **7**. The decision not to implement remedial action, or not to provide an A-K analysis to seek an exemption from remediating contaminated soil, is not consistent with NAC 445A.226 through 445A.22755.

2. Page 1, last paragraph in Section I: The Draft Final Decision Document states: “*The Nevada Division of Environmental Protection (NDEP) has reviewed this document and concurred with this decision. There are not any nationally significant or precedent setting issues for this site.*”

The NDEP concurrence with “No Further Action” for this site in the letter dated August 21, 1997 was based on the assumption that reasonably supporting documentation would be formally presented in the Decision Document. However, numerous issues which are detailed in the comments in this letter have not been acceptably supported by documentation. Because supporting documentation has not been provided, the NDEP cannot sign off on a “No Further Action” Decision Document for Site 17 at this time. The NDEP will consider “No Further Action” action after these issues are resolved and supporting documentation is provided.

3. Page 2, Section A, last paragraph: The Draft Final Decision Document states “*... No soil or groundwater contamination was found in relation to the activities at Site 17.*”

The NDEP does not concur with this statement. Contaminated soil was identified during the PA/SI and the presence of contaminated groundwater was not investigated. See comments **7** and **8**.

4. Page 4, Section C, Site 17 Description: The Draft Final Decision Document states: *“The areas of potential contamination, at Site 17, are the formerly unpaved soil lying to the south and east of Hangar 5. These areas received runoff from aircraft washing activities and aircraft fluids spilled on the parking apron, activities that occurred between the years of 1943 and 1987.... The area east of Hangar 5 was paved in 1985. The southern portion of the site still remains unpaved. Potential contaminants of concern include cleaning solvents (Turco), lubrication oil, hydraulic fluid, grease, aviation gasoline (avgas), JP-4, JP-5, methylethyl ketone, isopropyl alcohol, and PD-680.”*

The remedial investigation for Site 17 focused on drilling off-site borings along the drainage swale that runs from Site 17 to the unnamed drainage canal to the east (see comment 8). As requested in NDEP’s letter dated January 28, 1999, site features that are described in the Draft Final Decision Document and which are significant for evaluating site conditions need to be shown on the drawings so that the reader has an understanding of what is going on. Drawings in the Decision Document need to clearly show the following features:

- C The drainage swale.
- C The unpaved areas (which were identified as areas of potential contamination).
- C The locations of surface soil samples collected during the PA/SI.

5. Page 5, Section F, last paragraph: The Draft Final Decision Document states *“The Draft Decision Document for 11 sites including Site 17 will be published in the Lahontan Valley News and the Fallon Eagle Standard. These community participation activities fulfill the requirements of the CERCLA: Section 113(k)(2)(B)(I-v) and 117(a)(2). The Administration Record is available for review at the Churchill County Library.”*

Based on Appendix A in the Draft Final Decision Document (Administrative Record), the documents listed below were not included in the administrative record. These documents should be listed because they contain data, factual information, and analyses that form the basis for the selection of the response action.

- C Progress Reports that included data or interpretations for Site 17.
- C Logs for the five borings drilled off-site on the drainage swale.
- C Laboratory analytical reports.

6. Page 5, Section III. Investigation Summary: The Draft Final Decision Document states *“The Phase II RI for Group IV Sites consisted of conducting 2 geophysical surveys, 29 soil borings, 202 groundwater test borings, 25 monitoring wells, and 9 piezometers. Most of these investigations were conducted to evaluate the dissolved and free product plumes on site 14 and Site 16.”*

Most of these activities cannot be used to evaluate the nature and extent of contamination at Site 17. Those activities pertinent to Site 17 should be pointed out in this section. For Site 17, it appears that no investigation activities were performed on-site during the RI/FS, but 5 borings were drilled off-site to evaluate contamination in a drainage swale. The surface soil samples collected during the PA/SI also need to be identified in this section.

7. Page 5, Section A. Vadose Zone and Soil: The Draft Final Decision Document states: *“The three surface soil sample taken from the Hangar 5 area had TPH concentrations ranging from 57 to 350 mg/kg and also contained traces of solvents, including acetone, TCE and dichloroethane.....The first*

iteration of sampling during the Phase II of the RI for Site 17, included drilling five soil borings to the water table along the swale leading from Hangar 5 to the unnamed drain. One of the soil boring (BH03), was drilled in the Site 16, Old Fuel Farm plume. The results of Phase I PA/SI and Phase II RI surface samples indicate that the contamination was localized and has not resulted in widespread soil contamination.”

In a letter dated January 28, 1999, the NDEP provided comments regarding the investigation of contaminated soil at Site 17. NAS Fallon has not yet responded to NDEP’s comments. A description for the extent of the investigation at Site 17 needs to be accurately presented in the Decision Document. Based on the PA/SI Report, the three surface soil samples were collected over a distance of 400 feet along the aircraft wash area at the south end of the site. As stated above, one of the samples contained a TPH concentration of 350 mg/kg, using EPA Method 418.1, which exceeds the State action level of 100 mg/kg. TPH concentrations in the other two surface soil samples, which were collected approximately 120 feet west and 280 feet east from the first sample, were 83 mg/kg and 57 mg/kg. TPH concentrations in the last two samples are below the State action level; however, the depth and extent of soil contamination identified in the first sample was not evaluated during the RI/FS.

No samples were collected within the formerly unpaved area east of the Hangar 4 apron at Site 17, and it is unknown if soil in this area presents a source for groundwater contamination. It appears that no on-site investigation activities were conducted during the RI/FS for either the aircraft wash area, or the area on the east side of Site 17. Due to a lack of site characterization data, and the analytical results presented in the PA/SI report, the NDEP cannot concur with the above statement “*the contamination was localized and has not resulted in widespread soil contamination.*” The PA/SI Report recommended on page 3-19 that five borings and one groundwater monitoring well be installed along the south and east sides of Site 17 where contamination may exist. The Decision Document needs to provide the basis for not implementing these site characterization activities.

The five soil borings drilled during the RI/FS to investigate contaminated soil associated with Site 17 were drilled off-site. Some of these borings were drilled considerable distances to the east (up to approximately 1100 feet). This information needs to be included in the Decision Document.

8. Page 6, Section B, Groundwater: The Draft Final Decision Document states “*No groundwater investigation was conducted at Site 17 due to the minimal contamination source at the site. However, the Group IV Sites investigation drilled 202 groundwater test borings and installed 25 monitoring wells and 9 piezometers. These investigations were conducted to evaluate the dissolved and free product plumes on Site 14 and Site 16. Some of these groundwater test borings and monitoring wells were installed down gradient of Site 17. The water table elevation map of the monitoring wells used to complete the evaluation of the shallow alluvial aquifer is shown on Figure 5.*

The Decision Document needs to be consistent with the January 1992 Preliminary Site Characterization (PSC) Summary. If the interpretation of site conditions has changed, then supporting information needs to be provided. Information that is pertinent to this issue is summarized below.

- C The PSC Summary states on page 164 that solvents detected in MW25U (Site 16), downgradient of BH03 (Site 17), may be related to surface drainage from Hangar 4 (Site 17) or to past disposal practices at the Paint Shop (Site 11). Additional characterization was recommended on the west side of the Site 16 plume to determine the source of non-fuel contaminants. This area also corresponds with the formerly unpaved area on the east side of Site 17 (see figure 3-12 in the PA/SI Report).

- C The PSC Summary states on page 171 “*aircraft washing at Site 17, Hangar 4, produces runoff which infiltrates the soil south of the area and may cause percolation of residual soil contamination into the Site 16 plume, providing an increased flow gradient for the plume.*” As stated in comment 4, portions of Site 17 remain unpaved. Soil contamination was detected in this area during the PA/SI, and it is likely this area may be a source for continuing groundwater contamination.

In regards to the first bullet above, the additional characterization work does not appear to have been completed. The recommended characterization work could have provided important information regarding the contaminant sources and appropriate remedial actions. The basis for not completing this additional characterization work should be provided in the Decision Document.

In regards to the second bullet above, the Decision Document needs to address the controls that have been implemented at Site 17 to manage this point source and eliminate runoff during aircraft washing operations.

Figure 5 shows that a big gap exists downgradient of Site 17 where no groundwater monitoring wells were installed. In a letter dated September 20, 1995, the NDEP requested that a groundwater monitoring well be installed immediately downgradient (southeast) of Hangar 5 (Site 17) to determine if hangar activities are a source of 1,2 DCA and TCE detected in MW-63 (Site 11). NDEP also requested that this well be sampled for volatile organic compounds and TPH. Based on drawings in the February 1998 Semi-Annual Progress Report, a groundwater monitoring well was not installed at the requested location. The basis for not installing groundwater monitoring wells immediately downgradient of Site 17 needs to be addressed in the Decision Document.

9. Page 6, Section C, Risk Assessment Summary: The Draft Final Decision Document states “ *A quantitative risk assessment for soil and groundwater was not conducted at Site 17 due to minimal contamination. Groundwater contamination down gradient from Site 17 is a result of overlapping contamination from Site 14, the Old Vehicle Maintenance Shop and Site 16, the Old Fuel Farm.*”

The NDEP does not concur with the above statement. TPH concentrations in on-site soil samples collected during the PA/SI exceeded the State action level of 100 mg/kg. Analytical results for these samples were not considered in the risk assessment. The baseline risk assessment for Site 17 considered only soil samples collected from off-site borings drilled along the drainage swale during the RI/FS. One of the off-site wells drilled for Site 17 (BH03) was located near Site 16. Analytical results for soil samples collected from this boring indicated contaminated soil. However, contamination in this boring was included in the Site 16 human health and ecological risk assessment (page A-111), not the Site 17 risk assessment. This information needs to be addressed in the Decision Document.

For the reasons stated in comment 8, the NDEP does not have enough information to concur with the above quote which states “*groundwater contamination down gradient from Site 17 is a result of overlapping contamination from Site 14, the Old Vehicle Maintenance Shop and Site 16, the Old Fuel Farm.*” The NDEP remains concerned that Site 17 may be a source for groundwater contamination. Groundwater contamination was not investigated at Site 17 during the RI/FS, and it appears that existing RI/FS data are too limited to verify that Site 17 is not a source of contamination. The Decision Document needs to provide justification for concluding that Site 17 is not a source of groundwater contamination.

10. Page 6, Section D, Conclusion: The Draft Final Decision Document states “ *The results of Phase I PA/SI*

and Phase II RI surface investigation concluded that the contamination was localized and has not resulted in widespread soil contamination at Site 17, Hangar 5. A quantitative human health or ecological risk assessment was not conducted due to the absence of contaminant at the site.”

The NDEP does not concur with the above statement. See comments **7, 8** and **9**.

11. Page 6, Section IV, Proposed Action: The Draft Final Decision Document states “*No significant action is the recommendation for both soil and groundwater at Site 17, Hangar 5 because of minimal contamination. Based on this conclusion, the remedial decision for Site 17, Hangar 5 is no further action.*”

The Decision Document needs to define “*no significant action*”.

The Draft Final Decision Document states “*NDEP letter dated 21 August 1997 stated that No Further Action was required for Site 17.*” NDEP’s August 21, 1997 letter did concur with “No Further Action”. However, NDEP stated in a May 17, 1994 letter that soil remediation is required. Statements from these letters are quoted below.

- C NDEP’s letters dated May 17, 1994 states “*Significant soil contamination detected during the PA/SI conducted by Dames and Moore, must be remediated. No groundwater contamination was detected beneath this site.*”
- C NDEP’s letter dated August 21, 1997 states “*No further actions required. Groundwater monitoring at Site 16 covers this site*”

The NDEP will not rescind its decision of “No Further Action” for Site 17 in the August 21, 1997 letter. However, due to a lack of data available on the nature and extent of contamination, post closure monitoring may be required if no additional investigative work is completed. Post-closure monitoring needs to be specific for Site 17 and address the potential contaminants of concern (e.g. TPH and VOCs) which were not completely investigated during the RI/FS. NAS Fallon needs to propose a post-closure monitoring plan which was addressed in NDEP’s letter dated January 28, 1999. See comment **12** below. The Site 17 groundwater monitoring program must be incorporated with the Site 16 groundwater monitoring program when developed.

12. Page 6, Section V, Future Activity at Site 17: NAS Fallon stated that administrative controls will be imposed on Site 17. Administrative controls are subject to future audit. In addition to administrative controls, post-closure groundwater monitoring may be required at Site 17, if additional characterization work is not performed, for the following reasons:

- C TPH concentrations at Site 17 exceed the State action level of 100 mg/kg and remediation has not been implemented.
- C Sufficient data have not been collected to evaluate the nature and extent of soil and groundwater contamination associated with Site 17.
- C Runoff from aircraft washing may be continuing, and could be contributing a wide variety of contaminants to the subsurface.
- C Poor documentation.

The NDEP will consider “No Further Action” for Site 17 when NAS Fallon submits a post-closure monitoring plan to the NDEP for review and approval to demonstrate that contaminants are not migrating from Site 17. Post-closure monitoring may need to include the installation of monitoring wells at Site 17 to monitor the potential migration of contaminants in groundwater. Contaminants that need to be monitored include TPH and VOCs. The plan needs to address contingency plans for site remediation if significant groundwater contamination is detected during monitoring. Post closure monitoring requirements and associated long-term costs can be reduced, or eliminated, if additional characterization work is performed to evaluate the nature and extent of soil and groundwater contamination.

TPH concentrations in soil at Site 17 have exceeded the State action level of 100 mg/kg. Therefore, the NDEP cannot approve site closure until the site is remediated or an A through K analysis is submitted to the NDEP for review in accordance with NAC 445A.227. If the NDEP does not concur with the A through K analysis, then NAS Fallon has the option of pursuing site closure in accordance with NAC 445A.22705. This regulation states the site can be evaluated, based on the risk it poses to public health and the environment, to determine the necessary remediation standards or to establish that corrective action is not necessary. Such an evaluation must be conducted using ASTM Method E1739-95, or an equivalent method approved by the Division. Supporting documentation, including assumptions and calculations, must be provided to the NDEP for review. The Division shall determine whether an evaluation complies with the requirements of ASTM Method E1739-95, and may reject, require revisions, or withdraw its concurrence with the evaluation at any time after the completion of the assessment.

13. Page 7, Section VI, Recommendations: The Draft Final Decision Document states “*This Decision Document represents the selection of a no action alternative and subsequent closure for Site 17 at NAS*

Fallon, Fallon, Nevada. The no action alternative was developed in accordance with CERCLA as amended and is consistent with the NCP. This decision is supported by the documents in the administrative record for the site.”

The NDEP does not concur with this statement for the reasons discussed in this letter.

14. NAS Fallon needs to address all comments in NDEP’s January 28, 1999 letter for Site 17. Comments which need to be addressed, but have not been completely discussed above, include the following:

Item 3 in NDEP’s January 28, 1999 letter

Information or data that are used to support the “No Further Action” recommendation need to be backed up with supporting documentation. Documentation does not need to be provided with the Decision Document, but needs to be present in NDEP’s files. Supporting documentation for Site 17 missing from the NDEP’s files are listed below.

- C Logs for the five borings drilled on the drainage swale.
- C Laboratory analytical reports.
- C Sampling and Analysis Plan for the RI/FS (Volume III of the RI/FS Work Plan).

NAS Fallon needs to either provide the supporting documentation, or state the supporting documentation does not exist and is not included in the Administrative Record.